IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): An ultrasonic ~~vibration element~~ probe comprising:

a plurality of single-crystal piezoelectric ~~member~~ members ~~cut like an array~~; ~~and~~

a plurality of lower resin ~~layer~~ layers each of which is formed on a lower surface of the piezoelectric ~~member~~ members and each of which has smaller acoustic impedance than the piezoelectric ~~member~~ members, and a cutting characteristic and electrical conductivity so as to function as an electrode, the lower surface being an opposite side of an acoustically emitting side; and

a back member which supports the single-crystal piezoelectric members.

Claim 2 (Currently Amended): An ultrasonic probe comprising:

~~an ultrasonic vibration element constructed by~~

a plurality of 1-3 or 2-2 type composite piezoelectric ~~member~~ members ~~including a piezoelectric member~~ formed of solution-based single-crystal containing at least plumbum titanate~~, and~~

a plurality of lower resin ~~layer~~ layers each of which is formed on a lower surface of the piezoelectric ~~member~~ members and each of which has smaller acoustic impedance than the piezoelectric ~~member~~ members, and a cutting characteristic and electrical conductivity so as to function as an electrode, the lower surface being an opposite side of an acoustically emitting side; and

a backing member which supports the single-crystal piezoelectric members.

Claim 3 (Currently Amended): The probe according to claim 2, further comprising ~~an~~ a plurality of upper resin ~~layer~~ layers each of which is formed on an upper surface of the piezoelectric member, the upper surface being the acoustically emitting side; and

wherein the ~~lower~~ upper resin layer has acoustic impedance of 2×10^6 g/m^2 to 10×10^6 g/m^2 and functions as an acoustic matching layer.

Claim 4 (Withdrawn): A method of manufacturing an ultrasonic probe, comprising:

a first step of forming a resin layer on at least one of upper and lower surfaces of a single-crystal piezoelectric members, the resin layer having smaller acoustic impedance than the single-crystal piezoelectric member;

a second step of cutting the single-crystal piezoelectric member and the resin layer, thereby to form a plurality of kerfs; and

a third step of filling the plurality of kerfs with resins.

Claim 5 (Withdrawn): The method according to claim 4, wherein the plurality of kerfs are formed like a grid in the second step.

Claim 6 (Withdrawn): The method according to claim 4, further comprising a fourth step of polishing the resin layer to remove the resin layer.

Claim 7 (Withdrawn): A method of manufacturing an ultrasonic probe, comprising:

a first step of adhering a plurality of single-crystal piezoelectric members to a resin sheet;

a second step of cutting the piezoelectric single-crystal members and the resin sheet, thereby to form a plurality of kerfs; and

a third step of filling the plurality of kerfs with resins.

Claim 8 (Previously Presented): An ultrasonic probe comprising:

a plurality of piezoelectric members formed of solution-based single-crystal containing at least plumbum titanate, and arranged like an array;

a first electrode formed on a lower surface of each of the piezoelectric members, the lower surface being an opposite side of an acoustically emitting side;

a backing member which supports the plurality of piezoelectric members; and

a first flexible printed wiring board which is arranged between the first electrode and the backing member, includes a plurality of first pattern wires each having a width smaller than a width of each of the piezoelectric member in a longitudinal direction of the ultrasonic probe, extending in a longitudinal direction of each of the piezoelectric members and connected to the first electrode along the longitudinal direction of each of the piezoelectric members, and connects the plurality of pattern wires to an ultrasonic diagnosis apparatus body.

Claim 9 (Previously Presented): The ultrasonic probe according to claim 8, further comprising:

a second electrode formed on an upper surface of each of the piezoelectric members, the upper surface being the acoustically emitting side; and

a second flexible printed wiring board including a plurality of second pattern wires each having a width smaller than a width of each of the piezoelectric member in the

longitudinal direction of the ultrasonic probe, and connecting the plurality of second pattern wires to ground.

Claim 10 (Withdrawn): A method of manufacturing an ultrasonic probe, comprising:

a first step of adhering a flexible printed wiring board and a single-crystal piezoelectric member to each other, the flexible printed wiring board having conductive layers each having a predetermined width, which are patterned in parallel on a resin member; and

a second step cutting the flexible panted wring board and the single-crystal piezoelectric member together, along and between the conductive layers, thereby to form a piezoelectric vibration element array having a width smaller than a width of each of the conductive layers.

Claim 11 (Previously Presented): An ultrasonic probe comprising:

a plurality of piezoelectric members formed of solution-based single-crystal comprising at least plumbum titanate, and arranged like an array;

a first electrode formed on a lower surface of each of the piezoelectric members, the lower surface being an opposite side of an acoustically emitting side;

a backing member which supports the plurality of piezoelectric members;

a first flexible printed wiring board which is arranged between the first electrode and the backing member, includes a plurality of first pattern wires each having a width smaller than a width of each of the piezoelectric member in a longitudinal direction of the ultrasonic probe, extending in a longitudinal direction of each of the piezoelectric members and connected to the first electrode along the longitudinal direction of each of the piezoelectric

members, and connects the plurality of first pattern wires to an ultrasonic diagnosis apparatus body;

a second electrode formed on an upper surface of each of the piezoelectric members, the upper surface being the acoustically emitting side; and

a second flexible printed wiring board including a plurality of second pattern wires each having a width smaller than a width of each of the piezoelectric member in a longitudinal direction of the ultrasonic probe and which connecting a plurality of the second pattern wires to ground.

Claim 12 (Currently Amended): An ultrasonic probe ~~vibration element~~ comprising:

a plurality of single-crystal piezoelectric ~~member~~ members ~~cut like an array~~; ~~and~~

a plurality of lower resin ~~layer~~ layers each of which is formed on a lower surface of the piezoelectric ~~member~~ members and each of which has smaller acoustic impedance than the piezoelectric ~~member~~ members, a cutting characteristic and electrical conductivity so as to function as an electrode, an acoustic impedance of 2×10^6 g/m^2 to 10×10^6 g/m^2 ~~and functions~~ so as to function as an acoustic matching layer, the lower surface being an opposite side of an acoustically emitting side; and

a backing member which supports the single-crystal piezoelectric members.

Claim 13 (Currently Amended): An ultrasonic probe comprising:

~~an ultrasonic vibration element constructed by~~ a plurality of 1-3 or 2-2 type composite piezoelectric ~~member~~ members ~~including, a piezoelectric member~~ formed of solution-based single-crystal comprising at least plumbum titanate, ~~and~~

a plurality of lower resin ~~layer~~ layers each of which is formed on a lower surface of the piezoelectric ~~member~~ members and each of which has smaller acoustic impedance than the piezoelectric ~~member~~ members, a cutting characteristic and electrical conductivity so as to function as an electrode, an acoustic impedance of 2×10^6 g/m^2 to 10×10^6 g/m^2 ~~and functions~~ so as to function as an acoustic matching layer~~, the lower surface being an opposite side of an acoustically emitting side~~; and

a backing member which supports the single-crystal piezoelectric members.

Claim 14 (Currently Amended): The ultrasonic probe according to claim [[1]] 11, wherein each of the plurality of first pattern wires extends along an entire length of the piezoelectric member.

Claim 15 (Previously Presented): The ultrasonic probe according to claim 8, further comprising an upper resin layer which is formed on an upper surface of the piezoelectric member, the upper surface being the acoustically emitting side, and which has smaller acoustic impedance than the piezoelectric member, and a cutting characteristic and electrical conductivity so as to function as an electrode.

Claim 16 (Previously Presented): The ultrasonic probe according to claim 2, further comprising an upper resin layer which is formed on an upper surface of the piezoelectric member, the upper surface being the acoustically emitting side, and which has smaller acoustic impedance than the piezoelectric member, a cutting characteristic and electrical conductivity so as to function as an electrode, an acoustic impedance of 2×10^6 g/m^2 to 10×10^6 g/m^2 and functions as an acoustic matching layer.

Claim 17 (Previously Presented): The ultrasonic probe according to claim 12, further comprising an upper resin layer which is formed on an upper surface of the piezoelectric member, the upper surface being the acoustically emitting side, and which has smaller acoustic impedance than the piezoelectric member, a cutting characteristic and electrical conductivity so as to function as an electrode, an acoustic impedance of 2×10^6 g/m^2 to 10×10^6 g/m^2 and functions as an acoustic matching layer.

Claim 18 (Previously Presented): The ultrasonic probe according to claim 2, further comprising an upper resin layer which is formed on an upper surface of the piezoelectric member, the upper surface being the acoustically emitting side, and which has smaller acoustic impedance than the piezoelectric member, a cutting characteristic and electrical conductivity so as to function as an electrode, an acoustic impedance of 2×10^6 g/m^2 to 10×10^6 g/m^2 and functions as an acoustic matching layer.

Claim 19 (New): An ultrasonic probe comprising:

a plurality of single-crystal piezoelectric members,

a plurality of lower resin layers each of which is formed on a lower surface of the piezoelectric members and each of which has smaller acoustic impedance than the piezoelectric members, a cutting characteristic and electrical conductivity so as to function as an electrode, the lower surface being an opposite side of an acoustically emitting side; and

a plurality of wires each of which is arranged on each of the lower resin layers, extends along an entire length of each of the piezoelectric members and is connected to each

of the lower resin layers along the longitudinal direction of each of the piezoelectric members.

Claim 20 (New): An ultrasonic probe comprising:

a plurality of 1-3 or 2-2 type composite piezoelectric members formed of solution-based single-crystal containing at least plumbum titanate;

a plurality of lower resin layers each of which is formed on a lower surface of each of the piezoelectric members and each of which has smaller acoustic impedance than the piezoelectric members, a cutting characteristic and an electrical conductivity so as to function as an electrode, the lower surface being an opposite side of an acoustically emitting side; and

a plurality of wires each of which is arranged on each of the lower resin layers, extends along an entire length of each of the piezoelectric members and is connected to each of the lower resin layers along the longitudinal direction of each of the piezoelectric members.